



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,068	04/06/2001	Yong-Hwan Moon	18941001400	7267

20350 7590 08/20/2003

TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

EXAMINER
----------

BAUM, STUART F

ART UNIT	PAPER NUMBER
----------	--------------

1638

19

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/828,068

Applicant(s)

MOON ET AL.

Examiner

Stuart F. Baum

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-8,10,11,14,16,17 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) 6,11 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7,8,10,14,16 and 20-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 17.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1638

**DETAILED ACTION**

1. The amendment filed 5/19/2003 has been entered.

Claims 1, 3-4, 6-8, 10-11, 14, 16-17, 20-24 are pending.

Claims 2, 5, 9, 12-13, 15, and 18-19 have been canceled.

Claims 21-24 have been newly added.

Claims 6, 11, and 17 are withdrawn from consideration for being drawn to a non-elected invention.

2. Claims 1, 3-4, 7-8, 10, 14, 16, 20-24 are examined in the present office action.

3. This application contains claims 1-9 and 14-21 drawn to an invention nonelected with traverse in Paper No. 5. A complete reply to the final rejection must include cancelation of nonelected claims (37 CFR 1.144) See MPEP § 821.01.

4. Rejections and objections not set forth below are withdrawn.

5. The text of those sections of Title 35, U.S. Code not included in this office action can be found in a prior office action.

***Indefiniteness***

6. Claims 1, 4, 7-8, 10, 14, 16, and 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejection includes dependent claims.

In claim 1, 2<sup>nd</sup> line, replace the word “for” with --encoding-- to better clarify the relationship between the nucleic acid sequence and the polypeptide.

In claims 1, 7, and 14, replace the phrase “polypeptide at least 95% identical” with --polypeptide having at least 95% sequence identity--.

In claim 14, 5<sup>th</sup> line, replace the word “for with --encoding--.

In claim 21, 2<sup>nd</sup> line, replace the third recitation of the word “of” with --encoding--.

In claim 21, 3<sup>rd</sup> line, replace the word “displayed” with --set forth--. The term “set forth” more accurately describes Applicant’s invention.

In claim 22, 2<sup>nd</sup> line, replace the word “displayed” with --set forth--. The term “set forth” more accurately describes Applicant’s invention.

***Enablement***

7. Claims 1, 4, 7-8, 10, 14, 16-17, 20-21, and 23-24 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 1/15/2003. Applicant’s arguments filed 5/19/2003 have been fully considered but they are not persuasive.

Applicants contend that the Declaration of Dr. Z.R. Sung, reduced the endogenous expression of OsEMF1 using OsEMF1 encoding nucleic acid sequences in either antisense or sense (via co-suppression) orientation resulting in modulated reproductive development.

Applicants further contend that routine experimentation would be necessary to isolate sequences comprising 100 nucleotides of the coding sequence for a polypeptide at least 95% identical to SEQ ID NO:2 and that can modulate reproductive development. Applicant contends that the specification teaches sequences that are more or less likely to affect activity when changed.

Applicant points out page 24 lines 27-32 which describes conserved domains of the OsEMF1 and EMF sequences.

The Office contends that Applicant is enabled for sequences encoding SEQ ID NO:2. Applicants are not enabled for sequences comprising 100 nucleotides of the coding sequence for a polypeptide at least 95% identical to SEQ ID NO:2. In addition, a sequence encoding SEQ ID NO:2 or encoding a polypeptide having 95% sequence identity with SEQ ID NO:2 would not hybridize with SEQ ID NO:1. Applicant has not taught sequence fragments that can be used in sense orientation that will elicit the co-suppression mechanism. Applicant has only taught the use of the full length sequence and has not specified the regions of nucleic acids encoding SEQ ID NO:2 that are important for the co-suppression mechanism to operate.

The Declaration of Z. Renee Sung is not commensurate in scope with the claims. The claims are directed to 100 contiguous nucleotides encoding a polypeptide have 95% sequence identity to SEQ ID NO:2. The Declaration does not address this issue. In addition, it is unclear what is the function of a protein that is expressed from a nucleic acid sequence having 100

Art Unit: 1638

contiguous nucleotides of a coding sequence encoding a polypeptide having 95% sequence identity to SEQ ID NO:2.

In regards to claim 14, the preamble is directed towards decreasing flowering time in a plant, but in the body of the claim, Applicant recites both increasing and decreasing flowering time. Given the Declaration of Dr. Sung which only specifies decreasing flowering time using the full length sequence and given the lack of guidance in using the claimed sequences to increase flowering time, Applicant is not enabled for increasing flowering time in a plant.

### ***Written Description***

8. Claims 1, 4, 7-8, 10, 14, 16, 20, 23, and 24 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants contend that they have adequately described their invention by including structural and physical properties of the claimed invention. Applicants state “As amended, the claims are directed [to] polynucleotides comprising at least 100 nucleotides of the coding sequence of a polypeptide at least 95% identical to SEQ ID NO:2. This claim language defines a *physical* and *structural property* of the invention...” (page 9, 4<sup>th</sup> paragraph). Applicants believe that percent identity reflects the *structure* of the nucleic acid, i.e., its primary structure, or nucleotide sequence. In addition, Applicants contend that the specification teaches conserved

Art Unit: 1638

domains including a nuclear localization signal sequence, phosphorylation sites, an ATP/GTP binding motif (p-loop) and a LXXLL motif.

The Office contends that for the broad claims, those directed to fragments of nucleic acid sequences comprising 100 nucleotides of the coding sequence encoding a polypeptide at least 95% identical to SEQ ID NO:2, Applicants have not fulfilled the Written Description requirement. Applicants have not taught which domains are required for the proper activity of the protein. Are the Applicants suggesting that the above-mentioned domains are the only domains required to achieve the proper function/activity of the protein? Without a knowledge of all required and essential domains, the Written Description requirement is not fulfilled for claims drawn to fragments of sequences encoding SEQ ID NO:2.

***Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1, and 4 are rejected under 35 U.S.C. 102(a) as being anticipated by Sasaki et al (27 May 2000, NCBI Accession Number AP001859).

The claims are drawn to an isolated nucleic acid sequences comprising 100 nucleotides of the coding sequence encoding a polypeptide at least 95% identical to SEQ ID NO:2, further comprising a plant promoter operably linked to the polypeptide.

Sasaki et al teach a nucleic acid sequence comprising 100 nucleotides of a coding sequence encoding a polypeptide at least 95% identical to SEQ ID NO:2. Given that Sasaki et al

Art Unit: 1638

are sequencing the rice genome, the disclosed sequence would also comprise a plant promoter operably linked to the disclosed sequence, and as such, anticipates the claimed invention.

10. No claims are allowed. SEQ ID NO:1 is deemed free of the prior art, given the failure of the prior art to teach or reasonably suggest an isolated polynucleotide of SEQ ID NO:1.

11. ~~Claims 3 and 22 would be allowable if rewritten to not be dependent on rejected claims.~~

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart Baum whose telephone number is (703) 305-6997. The examiner can normally be reached on Monday-Friday 8:30AM – 5:00PM.



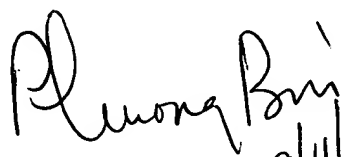
Art Unit: 1638

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3014 or (703) 305-3014 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, who may be contacted at 308-0196.

Stuart F. Baum Ph.D.

August 7, 2003

  
8/11/03  
PHUONG T. BUI  
PRIMARY EXAMINER